CLAIMS

1. A dispatch communication network comprising:

a plurality of communication hosts; and

a dispatch call server configured to arbitrate internet protocol (IP)

communication among a group of hosts of the plurality of hosts.

2. The dispatch communication network of claim 1 wherein the dispatch call server is configured to receive dispatch communication data from one or more hosts of the group of hosts and to transmit the dispatch communication data to one or more destinations over an IP network.

3. The dispatch communication network of claim 2 wherein the dispatch communication data comprises data representative of speech.

4. The dispatch communication network of claim 2 wherein the dispatch call server is configured to receive unicast IP transmissions from the one or more hosts.

5. The dispatch communication network of claim 2 wherein the dispatch call server is configured to transmit the dispatch communication data in an IP multicast format.

6. The dispatch communication network of claim 2 wherein the dispatch call server is configured to transmit the dispatch call data in an IP unicast format.

7. The dispatch communication network of claim 1 wherein the dispatch call server is configured to receive a transmission from one or more transmitting hosts and transmit to one or more receiving hosts.

8. The dispatch communication network of claim 7 wherein the dispatch call server is configured to arbitrate communication among the group of hosts based on normalized transmission times from the one or more transmitting hosts.

9. The dispatch communication network of claim 7 wherein the dispatch call server is configured to arbitrate communication among the group of hosts based on priorities assigned to the one or more transmitting hosts.

10. The dispatch communication network of claim 7 wherein the dispatch call server is configured to select one transmitting host for communication and to convey a busy control signal to other hosts of the transmitting hosts.

11. A method of operating a dispatch communication network, the method comprising:

at a dispatch call server, receiving internet protocol (IP) messages including dispatch call data from one or more transmitting hosts over a packet network,

at the dispatch call server, arbitrating the IP messages originating from the one or more transmitting hosts; and

from the dispatch call server, transmitting the dispatch call data in an IP transmission to one or more destinations over the packet network.

12. The method of claim 11 wherein the step of arbitrating comprises:

normalizing transmission times from the one or more transmitting hosts; and

selecting a transmitting host based on normalized transmission times for communication to the one or more destinations.

13. The method of claim 12 wherein the normalized transmission times are based on a host's round trip time.

14. The method of claim 11 wherein the step of arbitrating comprises:

selecting a transmitting host for communication to the one or more destinations based on priorities assigned to the one or more transmitting hosts.

15. The method of claim 11 further comprising:

selecting one transmitting host for communication; and

transmitting a busy control signal to the other transmitting hosts.

16. The method of claim 11 further comprising:

selecting one transmitting host for communications; and

discarding the dispatch call data from the other transmitting hosts.

17. The method of claim 11 further comprising:

selecting one transmitting host for communications; and

when the transmitting host completes communications, selecting one of the other transmitting hosts for communications.

18. A method of operating a server in a dispatch communication network, the method comprising:

receiving a request to communicate from one host on the network;

determining if another request to communicate has been received from

another host on the network;

selecting a transmitting host for communication;

receiving dispatch data from the selected host; and

transmitting the dispatch data to one or more receiving hosts.

19. The method of claim 18 further comprising:

determining a first wait time for communication from the one host;

waiting a time at least equal to the first wait time; and

after the first wait time, accepting transmissions from the one host.

20. The method of claim 19 further comprising:

determining if a call is in progress;

if a call is in progress; sending a busy control signal to the one host.

21. The method of claim 18 further comprising:

determining if there is a pending request to communicate;

if not, determining a wait time for the request; and

after the wait time has elapsed, receiving the dispatch data from the

selected host.